REMARKS/ARGUMENTS

Claims 1,2, 5-12, 13, 15, and 22-28 are pending.

Claims 16-21 are withdrawn.

Claims 3, 4, and 14 have been canceled.

Claims 23 has been amended.

Claims 29 – 34 have been added.

Allowable subject matter – claims 3, 4 and 14

Applicant accepts Examiner's suggestions and has amended claims 3, 4 and 14 in independent form including all of the limitations of the base claims and any intervening claims. Accordingly, claims 3, 4 and 14 have been canceled and their re-written independents (claims 29 – 34) have been added. Therefore, having adopted the Examiner's suggestion, Applicant respectively requests allowance of these new claims.

Rejection of claims 1,2, 5-12, 15, and 22-28 under USC § 102(a)

Claims 1, 2, 5 – 12

Applicant respectively traverses the § 102(a) rejection of claims 1, 2, 5 - 12 as anticipated by R.M. McMeeking et al. because Applicant's invention antedates this reference for the following reasons.

First, Applicant's claims 1, 2, 5 - 12 is disclosed in the Rao et al.'s Science article.

Claim 1: disclosed on page 102, abstract, and page 103, paras 3, 4 and 5.

Claim 2: disclosed page 103, para 3-4.

Claim 5: disclosed on page 103, para 3.

Claim 6: disclosed on page 103, para 3.

Claim 7: disclosed on page 103, para 3.

Claim 8: disclosed on page 103, para 3.

Claim 9: disclosed on page 103, para 3.

Claim 10: disclosed on page 104, para 2.

Claim 11: disclosed on page 104, para 2.

Claim 12: disclosed on page 104, para 2.

Second, Examiner has, in this file office, accepted that Rao et. al.'s article is in fact Applicant's work. Third, this very Science article antedates the R.M. McMeeking prior art reference date of December 1999, because the Science article was submitted, accepted, and published on June 8, 1999, August 19, and October 1999, respectively.

Claims 22-28

"A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of California,* 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed. Cir. 1987).

Nowhere in the R.M. McMeeking reference is there disclosed "alumina" and "mullite when reacted with silica" of claim 22. Therefore, rejection of claim 22 is inappropriate.

Rejection of claims 24, 25, 26, 27 with the McMeeking reference is improper because their underlying claims 10 and 11 are found in the Science article, and the work in this article has been acknowledged by Examiner to be Applicant's own work, and further the Science article antedates the McMeeking reference.

Nowhere in the McMeeking reference is there disclosed the "polymers" of the underlying claim 13 to claim 28. Therefore, because claim 28 depends upon claim 13, rejection of claim 28 is inappropriate.

Claim 23

Applicant has amended claim 23 to delete "zirconia" to patentably distinguish this claim from the McMeeking reference, and now respectively requests allowance of this claim.

Rejections of claims 1,2, 5-12, 15, and 22-28 under USC § 103

USC § 103(a) states:

> A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. (emphasis added).

As noted above, at the very least October 1999 (publication of the Science article) was the time the invention was made. McMeeking article - used as part of the 103(a) rejection by the Office- however, has a publication date of December 1999. Accordingly, the Applicant's claimed invention would not have been obvious at the time the invention was made to a person of ordinary skill in the art because the McMeeking article was unavailable.

Furthermore, the teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. *In re Vaeck*, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). The Examiner states that McMeeking refers to ceramics laminates disclosed by Rao et al. and that "it would have been obvious to one of ordinary skill in the art at the time of the invention to optimize the threshold strength of the laminates referred to by McMeeking according to the prescription disclosed by McMeeking in order to obtain laminates having optimized threshold strength properties as taught as desirable by McMeeking." However, as noted above, the Science article referred to by McMeeking is Applicant's own work. Thus, according to In re Vaeck, because such teaching or suggestion to make the claimed combination and the reasonable expectation of success must be found in the prior art and not based on Applicant's own disclosure, a §103 rejection is inappropriate.

In view of the foregoing amendments and remarks, Applicants submit that the present claims are in condition for allowance. A Notice of Allowance is therefore respectfully requested.

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